

# 74LVC3GU04

## Triple unbuffered inverter

Rev. 11 — 9 April 2013

Product data sheet

## 1. General description

The 74LVC3GU04 is a triple unbuffered inverter.

Inputs can be driven from either 3.3 V or 5 V devices. These features allow the use of these devices in a mixed 3.3 V and 5 V environment.

## 2. Features and benefits

- Wide supply voltage range from 1.65 V to 5.5 V
- 5 V tolerant input/output for interfacing with 5 V logic
- High noise immunity
- ESD protection:
  - ◆ HBM JESD22-A114F exceeds 2000 V
  - ◆ MM JESD22-A115-A exceeds 200 V
- $\pm 24$  mA output drive at  $V_{CC} = 3.0$  V
- CMOS low power consumption
- Latch-up performance exceeds 250 mA
- Multiple package options
- Specified from  $-40$  °C to  $+85$  °C and from  $-40$  °C to  $+125$  °C.

## 3. Ordering information

Table 1. Ordering information

| Type number  | Package               |        |                                                                                                         |          |
|--------------|-----------------------|--------|---------------------------------------------------------------------------------------------------------|----------|
|              | Temperature range     | Name   | Description                                                                                             | Version  |
| 74LVC3GU04DP | $-40$ °C to $+125$ °C | TSSOP8 | plastic thin shrink small outline package; 8 leads; body width 3 mm; lead length 0.5 mm                 | SOT505-2 |
| 74LVC3GU04DC | $-40$ °C to $+125$ °C | VSSOP8 | plastic very thin shrink small outline package; 8 leads; body width 2.3 mm                              | SOT765-1 |
| 74LVC3GU04GT | $-40$ °C to $+125$ °C | XSON8  | plastic extremely thin small outline package; no leads; 8 terminals; body $1 \times 1.95 \times 0.5$ mm | SOT833-1 |
| 74LVC3GU04GF | $-40$ °C to $+125$ °C | XSON8  | extremely thin small outline package; no leads; 8 terminals; body $1.35 \times 1 \times 0.5$ mm         | SOT1089  |
| 74LVC3GU04GD | $-40$ °C to $+125$ °C | XSON8  | plastic extremely thin small outline package; no leads; 8 terminals; body $3 \times 2 \times 0.5$ mm    | SOT996-2 |



Table 1. Ordering information ...continued

| Type number  | Package           |       |                                                                                           |          |
|--------------|-------------------|-------|-------------------------------------------------------------------------------------------|----------|
|              | Temperature range | Name  | Description                                                                               | Version  |
| 74LVC3GU04GM | −40 °C to +125 °C | XQFN8 | plastic, extremely thin quad flat package; no leads; 8 terminals; body 1.6 × 1.6 × 0.5 mm | SOT902-2 |
| 74LVC3GU04GN | −40 °C to +125 °C | XSON8 | extremely thin small outline package; no leads; 8 terminals; body 1.2 × 1.0 × 0.35 mm     | SOT1116  |
| 74LVC3GU04GS | −40 °C to +125 °C | XSON8 | extremely thin small outline package; no leads; 8 terminals; body 1.35 × 1.0 × 0.35 mm    | SOT1203  |

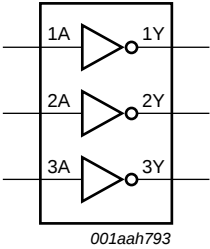
4. Marking

Table 2. Marking codes

| Type number  | Marking code <sup>[1]</sup> |
|--------------|-----------------------------|
| 74LVC3GU04DP | VU04                        |
| 74LVC3GU04DC | VU4                         |
| 74LVC3GU04GT | VU4                         |
| 74LVC3GU04GF | YD                          |
| 74LVC3GU04GD | VU4                         |
| 74LVC3GU04GM | VU4                         |
| 74LVC3GU04GN | YD                          |
| 74LVC3GU04GS | YD                          |

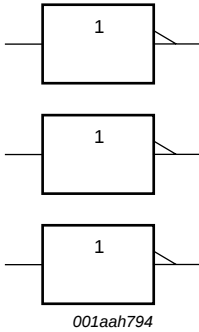
[1] The pin 1 indicator is located on the lower left corner of the device, below the marking code.

5. Functional diagram



001aah793

Fig 1. Logic symbol



001aah794

Fig 2. IEC logic symbol

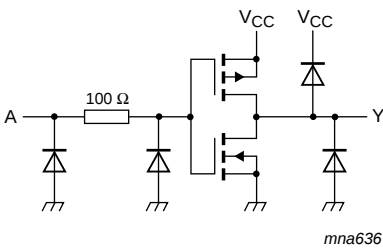


Fig 3. Logic diagram (one gate)

6. Pinning information

6.1 Pinning

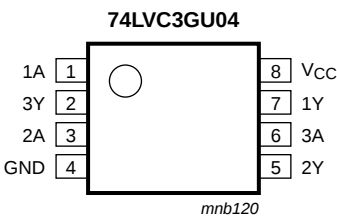


Fig 4. Pin configuration SOT505-2 and SOT765-1

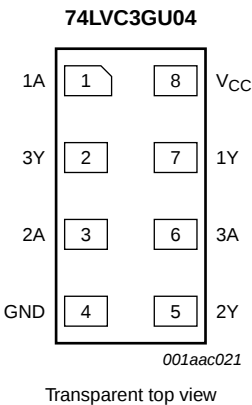


Fig 5. Pin configuration SOT833-1, SOT1089, SOT1116 and SOT1203

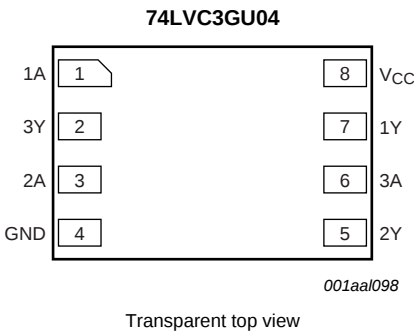


Fig 6. Pin configuration SOT996-2

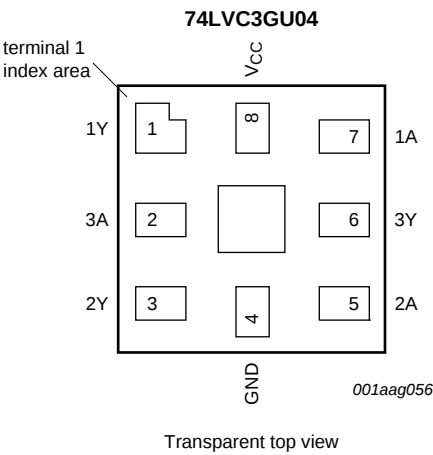


Fig 7. Pin configuration SOT902-2

## 6.2 Pin description

Table 3. Pin description

| Symbol          | Pin                                                                  |          | Description    |
|-----------------|----------------------------------------------------------------------|----------|----------------|
|                 | SOT505-2, SOT765-1, SOT833-1, SOT1089, SOT996-2, SOT1116 and SOT1203 | SOT902-2 |                |
| 1A, 2A, 3A      | 1, 3, 6                                                              | 7, 5, 2  | data input     |
| GND             | 4                                                                    | 4        | ground (0 V)   |
| 1Y, 2Y, 3Y      | 7, 5, 2                                                              | 1, 3, 6  | data output    |
| V <sub>CC</sub> | 8                                                                    | 8        | supply voltage |

## 7. Functional description

Table 4. Function table<sup>[1]</sup>

| Input nA | Output nY |
|----------|-----------|
| L        | H         |
| H        | L         |

[1] H = HIGH voltage level; L = LOW voltage level.

## 8. Limiting values

Table 5. Limiting values

In accordance with the Absolute Maximum Rating System (IEC 60134). Voltages are referenced to GND (ground = 0 V).

| Symbol           | Parameter               | Conditions                                               | Min                 | Max                   | Unit |
|------------------|-------------------------|----------------------------------------------------------|---------------------|-----------------------|------|
| V <sub>CC</sub>  | supply voltage          |                                                          | -0.5                | +6.5                  | V    |
| V <sub>I</sub>   | input voltage           |                                                          | <sup>[1]</sup> -0.5 | +6.5                  | V    |
| V <sub>O</sub>   | output voltage          | Active mode                                              | <sup>[1]</sup> -0.5 | V <sub>CC</sub> + 0.5 | V    |
| I <sub>IK</sub>  | input clamping current  | V <sub>I</sub> < 0 V                                     | -50                 | -                     | mA   |
| I <sub>OK</sub>  | output clamping current | V <sub>O</sub> > V <sub>CC</sub> or V <sub>O</sub> < 0 V | -                   | ±50                   | mA   |
| I <sub>O</sub>   | output current          | V <sub>O</sub> = 0 V to V <sub>CC</sub>                  | -                   | ±50                   | mA   |
| I <sub>CC</sub>  | supply current          |                                                          | -                   | 100                   | mA   |
| I <sub>GND</sub> | ground current          |                                                          | -100                | -                     | mA   |
| P <sub>tot</sub> | total power dissipation | T <sub>amb</sub> = -40 °C to +125 °C                     | <sup>[2]</sup> -    | 250                   | mW   |
| T <sub>stg</sub> | storage temperature     |                                                          | -65                 | +150                  | °C   |

[1] The input and output voltage ratings may be exceeded if the input and output current ratings are observed.

[2] For TSSOP8 packages: above 55 °C the value of P<sub>tot</sub> derates linearly with 2.5 mW/K.  
 For VSSOP8 packages: above 110 °C the value of P<sub>tot</sub> derates linearly with 8.0 mW/K.  
 For XSON8 and XQFN8 packages: above 118 °C the value of P<sub>tot</sub> derates linearly with 7.8 mW/K.

## 9. Recommended operating conditions

**Table 6. Operating conditions**

| Symbol              | Parameter                           | Conditions                      | Min  | Max      | Unit |
|---------------------|-------------------------------------|---------------------------------|------|----------|------|
| $V_{CC}$            | supply voltage                      |                                 | 1.65 | 5.5      | V    |
| $V_I$               | input voltage                       |                                 | 0    | 5.5      | V    |
| $V_O$               | output voltage                      | Active mode                     | 0    | $V_{CC}$ | V    |
|                     |                                     | Power-down mode; $V_{CC} = 0$ V | 0    | 5.5      | V    |
| $T_{amb}$           | ambient temperature                 |                                 | -40  | +125     | °C   |
| $\Delta t/\Delta V$ | input transition rise and fall rate | $V_{CC} = 1.65$ V to 2.7 V      | -    | 20       | ns/V |
|                     |                                     | $V_{CC} = 2.7$ V to 5.5 V       | -    | 10       | ns/V |

## 10. Static characteristics

**Table 7. Static characteristics**

At recommended operating conditions; voltages are referenced to GND (ground = 0 V).

| Symbol                                                      | Parameter                 | Conditions                                                       | Min                  | Typ <sup>[1]</sup> | Max                  | Unit    |
|-------------------------------------------------------------|---------------------------|------------------------------------------------------------------|----------------------|--------------------|----------------------|---------|
| <b><math>T_{amb} = -40</math> °C to <math>+85</math> °C</b> |                           |                                                                  |                      |                    |                      |         |
| $V_{IH}$                                                    | HIGH-level input voltage  | $V_{CC} = 1.65$ V to 5.5 V                                       | $0.75 \times V_{CC}$ | -                  | -                    | V       |
| $V_{IL}$                                                    | LOW-level input voltage   | $V_{CC} = 1.65$ V to 5.5 V                                       | -                    | -                  | $0.25 \times V_{CC}$ | V       |
| $V_{OH}$                                                    | HIGH-level output voltage | $V_I = V_{IH}$ or $V_{IL}$                                       |                      |                    |                      |         |
|                                                             |                           | $I_O = -100$ $\mu$ A;<br>$V_{CC} = 1.65$ V to 5.5 V              | $V_{CC} - 0.1$       | -                  | -                    | V       |
|                                                             |                           | $I_O = -4$ mA; $V_{CC} = 1.65$ V                                 | 1.2                  | -                  | -                    | V       |
|                                                             |                           | $I_O = -8$ mA; $V_{CC} = 2.3$ V                                  | 1.9                  | -                  | -                    | V       |
|                                                             |                           | $I_O = -12$ mA; $V_{CC} = 2.7$ V                                 | 2.2                  | -                  | -                    | V       |
|                                                             |                           | $I_O = -24$ mA; $V_{CC} = 3.0$ V                                 | 2.3                  | -                  | -                    | V       |
|                                                             |                           | $I_O = -32$ mA; $V_{CC} = 4.5$ V                                 | 3.8                  | -                  | -                    | V       |
|                                                             |                           |                                                                  |                      |                    |                      |         |
| $V_{OL}$                                                    | LOW-level output voltage  | $V_I = V_{IH}$ or $V_{IL}$                                       |                      |                    |                      |         |
|                                                             |                           | $I_O = 100$ $\mu$ A;<br>$V_{CC} = 1.65$ V to 5.5 V               | -                    | -                  | 0.1                  | V       |
|                                                             |                           | $I_O = 4$ mA; $V_{CC} = 1.65$ V                                  | -                    | -                  | 0.45                 | V       |
|                                                             |                           | $I_O = 8$ mA; $V_{CC} = 2.3$ V                                   | -                    | -                  | 0.3                  | V       |
|                                                             |                           | $I_O = 12$ mA; $V_{CC} = 2.7$ V                                  | -                    | -                  | 0.4                  | V       |
|                                                             |                           | $I_O = 24$ mA; $V_{CC} = 3.0$ V                                  | -                    | -                  | 0.55                 | V       |
|                                                             |                           | $I_O = 32$ mA; $V_{CC} = 4.5$ V                                  | -                    | -                  | 0.55                 | V       |
|                                                             |                           |                                                                  |                      |                    |                      |         |
| $I_I$                                                       | input leakage current     | $V_I = 5.5$ V or GND;<br>$V_{CC} = 0$ V to 5.5 V                 | -                    | $\pm 0.1$          | $\pm 5$              | $\mu$ A |
| $I_{CC}$                                                    | supply current            | $V_I = 5.5$ V or GND;<br>$V_{CC} = 1.65$ V to 5.5 V; $I_O = 0$ A | -                    | 0.1                | 10                   | $\mu$ A |
| $C_I$                                                       | input capacitance         |                                                                  | -                    | 5                  | -                    | pF      |

**Table 7.** Static characteristics ...continued

At recommended operating conditions; voltages are referenced to GND (ground = 0 V).

| Symbol                                     | Parameter                 | Conditions                                                                                | Min                   | Typ <sup>[1]</sup> | Max                   | Unit |
|--------------------------------------------|---------------------------|-------------------------------------------------------------------------------------------|-----------------------|--------------------|-----------------------|------|
| <b>T<sub>amb</sub> = -40 °C to +125 °C</b> |                           |                                                                                           |                       |                    |                       |      |
| V <sub>IH</sub>                            | HIGH-level input voltage  | V <sub>CC</sub> = 1.65 V to 5.5 V                                                         | 0.8 × V <sub>CC</sub> | -                  | -                     | V    |
| V <sub>IL</sub>                            | LOW-level input voltage   | V <sub>CC</sub> = 1.65 V to 5.5 V                                                         | -                     | -                  | 0.2 × V <sub>CC</sub> | V    |
| V <sub>OH</sub>                            | HIGH-level output voltage | V <sub>I</sub> = V <sub>IH</sub> or V <sub>IL</sub>                                       |                       |                    |                       |      |
|                                            |                           | I <sub>O</sub> = -100 μA;<br>V <sub>CC</sub> = 1.65 V to 5.5 V                            | V <sub>CC</sub> - 0.1 | -                  | -                     | V    |
|                                            |                           | I <sub>O</sub> = -4 mA; V <sub>CC</sub> = 1.65 V                                          | 0.95                  | -                  | -                     | V    |
|                                            |                           | I <sub>O</sub> = -8 mA; V <sub>CC</sub> = 2.3 V                                           | 1.7                   | -                  | -                     | V    |
|                                            |                           | I <sub>O</sub> = -12 mA; V <sub>CC</sub> = 2.7 V                                          | 1.9                   | -                  | -                     | V    |
|                                            |                           | I <sub>O</sub> = -24 mA; V <sub>CC</sub> = 3.0 V                                          | 2.0                   | -                  | -                     | V    |
|                                            |                           | I <sub>O</sub> = -32 mA; V <sub>CC</sub> = 4.5 V                                          | 3.4                   | -                  | -                     | V    |
| V <sub>OL</sub>                            | LOW-level output voltage  | V <sub>I</sub> = V <sub>IH</sub> or V <sub>IL</sub>                                       |                       |                    |                       |      |
|                                            |                           | I <sub>O</sub> = 100 μA;<br>V <sub>CC</sub> = 1.65 V to 5.5 V                             | -                     | -                  | 0.1                   | V    |
|                                            |                           | I <sub>O</sub> = 4 mA; V <sub>CC</sub> = 1.65 V                                           | -                     | -                  | 0.70                  | V    |
|                                            |                           | I <sub>O</sub> = 8 mA; V <sub>CC</sub> = 2.3 V                                            | -                     | -                  | 0.45                  | V    |
|                                            |                           | I <sub>O</sub> = 12 mA; V <sub>CC</sub> = 2.7 V                                           | -                     | -                  | 0.60                  | V    |
|                                            |                           | I <sub>O</sub> = 24 mA; V <sub>CC</sub> = 3.0 V                                           | -                     | -                  | 0.80                  | V    |
|                                            |                           | I <sub>O</sub> = 32 mA; V <sub>CC</sub> = 4.5 V                                           | -                     | -                  | 0.80                  | V    |
| I <sub>I</sub>                             | input leakage current     | V <sub>I</sub> = 5.5 V or GND;<br>V <sub>CC</sub> = 0 V to 5.5 V                          | -                     | -                  | ±20                   | μA   |
| I <sub>CC</sub>                            | supply current            | V <sub>I</sub> = 5.5 V or GND;<br>V <sub>CC</sub> = 1.65 V to 5.5 V; I <sub>O</sub> = 0 A | -                     | -                  | 40                    | μA   |

[1] All typical values are measured at T<sub>amb</sub> = 25 °C.

## 11. Dynamic characteristics

**Table 8.** Dynamic characteristicsVoltages are referenced to GND (ground = 0 V). For test circuit see [Figure 9](#).

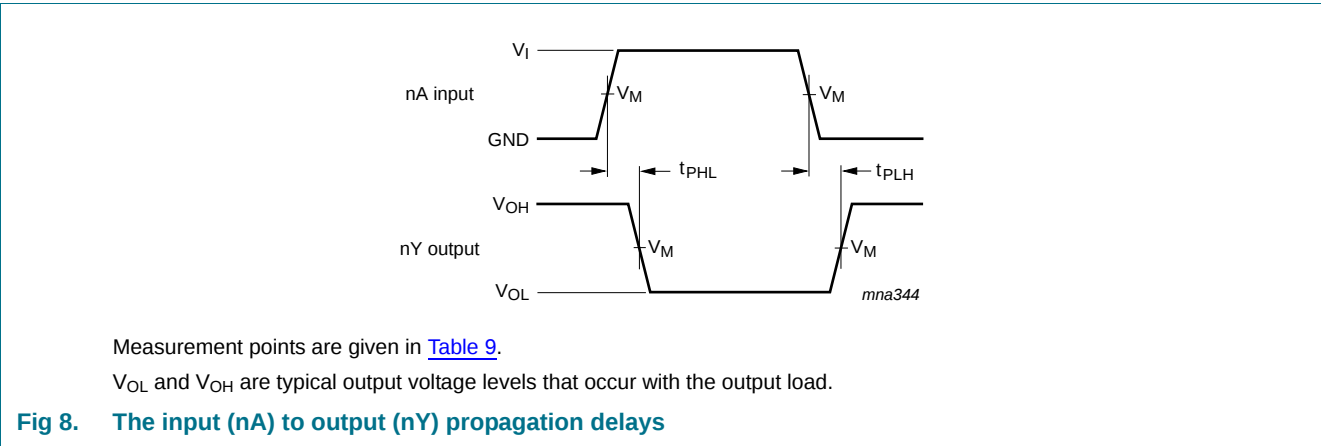
| Symbol          | Parameter         | Conditions                                            | -40 °C to +85 °C |                    |     | -40 °C to +125 °C |     | Unit |
|-----------------|-------------------|-------------------------------------------------------|------------------|--------------------|-----|-------------------|-----|------|
|                 |                   |                                                       | Min              | Typ <sup>[1]</sup> | Max | Min               | Max |      |
| t <sub>pd</sub> | propagation delay | nA to nY; see <a href="#">Figure 8</a> <sup>[2]</sup> |                  |                    |     |                   |     |      |
|                 |                   | V <sub>CC</sub> = 1.65 V to 1.95 V                    | 0.5              | 2.3                | 5.0 | 0.5               | 6.3 | ns   |
|                 |                   | V <sub>CC</sub> = 2.3 V to 2.7 V                      | 0.3              | 1.8                | 4.0 | 0.3               | 4.0 | ns   |
|                 |                   | V <sub>CC</sub> = 2.7 V                               | 0.3              | 2.6                | 4.5 | 0.3               | 5.6 | ns   |
|                 |                   | V <sub>CC</sub> = 3.0 V to 3.6 V                      | 0.3              | 2.3                | 3.7 | 0.3               | 4.5 | ns   |
|                 |                   | V <sub>CC</sub> = 4.5 V to 5.5 V                      | 0.3              | 1.7                | 3.0 | 0.3               | 3.8 | ns   |

**Table 8. Dynamic characteristics ...continued**  
Voltages are referenced to GND (ground = 0 V). For test circuit see [Figure 9](#).

| Symbol          | Parameter                     | Conditions                                                                       | −40 °C to +85 °C |                    |     | −40 °C to +125 °C |     | Unit |
|-----------------|-------------------------------|----------------------------------------------------------------------------------|------------------|--------------------|-----|-------------------|-----|------|
|                 |                               |                                                                                  | Min              | Typ <sup>[1]</sup> | Max | Min               | Max |      |
| C <sub>PD</sub> | power dissipation capacitance | V <sub>I</sub> = GND to V <sub>CC</sub> ; V <sub>CC</sub> = 3.3 V <sup>[3]</sup> | -                | 7                  | -   | -                 | -   | pF   |

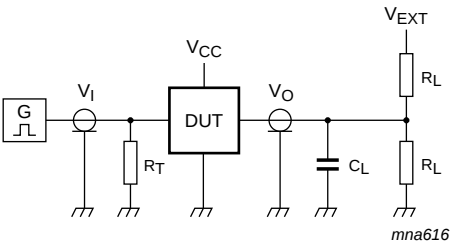
- [1] Typical values are measured at T<sub>amb</sub> = 25 °C and V<sub>CC</sub> = 1.8 V, 2.5 V, 2.7 V, 3.3 V and 5.0 V respectively.
- [2] t<sub>pd</sub> is the same as t<sub>PLH</sub> and t<sub>PHL</sub>.
- [3] C<sub>PD</sub> is used to determine the dynamic power dissipation (P<sub>D</sub> in μW).  
P<sub>D</sub> = C<sub>PD</sub> × V<sub>CC</sub><sup>2</sup> × f<sub>i</sub> × N + Σ(C<sub>L</sub> × V<sub>CC</sub><sup>2</sup> × f<sub>o</sub>) where:  
f<sub>i</sub> = input frequency in MHz;  
f<sub>o</sub> = output frequency in MHz;  
C<sub>L</sub> = output load capacitance in pF;  
V<sub>CC</sub> = supply voltage in V;  
N = number of inputs switching;  
Σ(C<sub>L</sub> × V<sub>CC</sub><sup>2</sup> × f<sub>o</sub>) = sum of outputs.

12. Waveforms



**Table 9. Measurement points**

| Supply voltage   | Input                 | Output                |
|------------------|-----------------------|-----------------------|
| V <sub>CC</sub>  | V <sub>M</sub>        | V <sub>M</sub>        |
| 1.65 V to 1.95 V | 0.5 × V <sub>CC</sub> | 0.5 × V <sub>CC</sub> |
| 2.3 V to 2.7 V   | 0.5 × V <sub>CC</sub> | 0.5 × V <sub>CC</sub> |
| 2.7 V            | 1.5 V                 | 1.5 V                 |
| 3.0 V to 3.6 V   | 1.5 V                 | 1.5 V                 |
| 4.5 V to 5.5 V   | 0.5 × V <sub>CC</sub> | 0.5 × V <sub>CC</sub> |



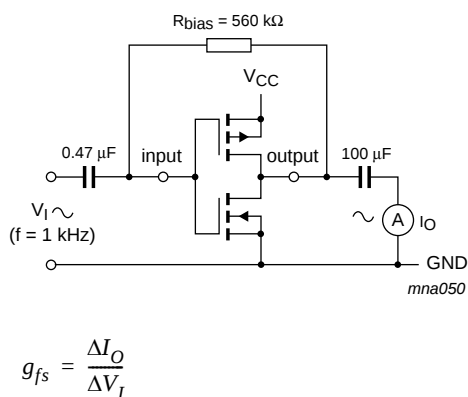
Test data is given in [Table 10](#).  
Definitions for test circuit:  
 $R_L$  = Load resistance.  
 $C_L$  = Load capacitance including jig and probe capacitance.  
 $R_T$  = Termination resistance should be equal to the output impedance  $Z_o$  of the pulse generator.  
 $V_{EXT}$  = External voltage for measuring switching times.

Fig 9. Test circuit for measuring switching times

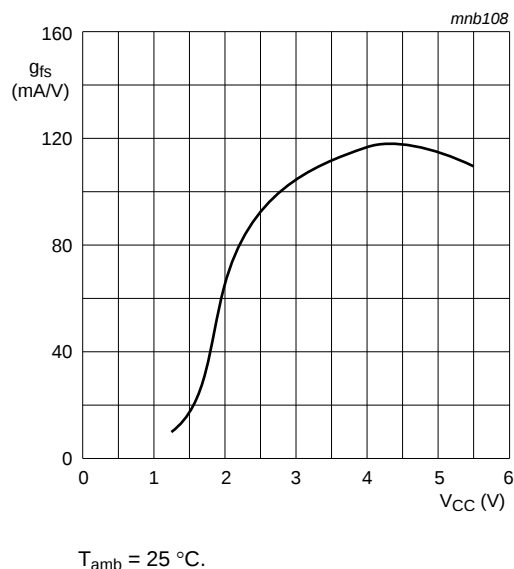
Table 10. Test data

| Supply voltage   | Input    |                       | Load  |              | $V_{EXT}$          |
|------------------|----------|-----------------------|-------|--------------|--------------------|
| $V_{CC}$         | $V_I$    | $t_r = t_f$           | $C_L$ | $R_L$        | $t_{PLH}, t_{PHL}$ |
| 1.65 V to 1.95 V | $V_{CC}$ | $\leq 2.0 \text{ ns}$ | 30 pF | 1 k $\Omega$ | open               |
| 2.3 V to 2.7 V   | $V_{CC}$ | $\leq 2.0 \text{ ns}$ | 30 pF | 500 $\Omega$ | open               |
| 2.7 V            | 2.7 V    | $\leq 2.5 \text{ ns}$ | 50 pF | 500 $\Omega$ | open               |
| 3.0 V to 3.6 V   | 2.7 V    | $\leq 2.5 \text{ ns}$ | 50 pF | 500 $\Omega$ | open               |
| 4.5 V to 5.5 V   | $V_{CC}$ | $\leq 2.5 \text{ ns}$ | 50 pF | 500 $\Omega$ | open               |

### 13. Additional characteristics

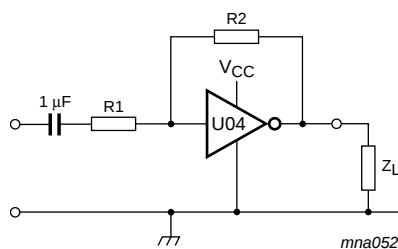


**Fig 10. Test set-up for measuring forward transconductance**



**Fig 11. Typical forward transconductance as a function of supply voltage**

### 14. Application information



$$Z_L > 10\text{ k}\Omega$$

$$R1 \geq 3\text{ k}\Omega$$

$$R2 \leq 1\text{ M}\Omega$$

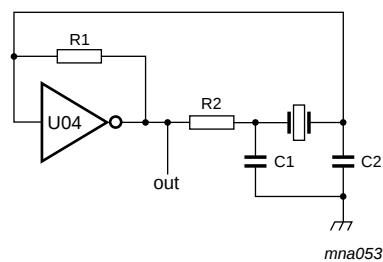
$$\text{Open loop gain: } G_{ol} = 20$$

$$\text{Voltage gain: } G_v = -\frac{G_{ol}}{1 + \frac{R1}{R2}(1 + G_{ol})}$$

$$V_{O(p-p)} = V_{CC} - 1.5\text{ V centered at } 0.5 \times V_{CC}$$

$$\text{Unity gain bandwidth product is } 5\text{ MHz.}$$

**Fig 12. Linear amplifier application**



$$C1 = 47\text{ pF}$$

$$C2 = 22\text{ pF}$$

$$R1 = 1\text{ M}\Omega \text{ to } 10\text{ M}\Omega$$

$$R2 \text{ optimum value depends on the frequency and required stability against changes in } V_{CC} \text{ or average minimum } I_{CC} (I_{CC} = 2\text{ mA at } V_{CC} = 3.3\text{ V and } f = 10\text{ MHz}).$$

**Fig 13. Crystal oscillator application**

**Remark:** All values given are typical values unless otherwise specified.

# 15. Package outline

TSSOP8: plastic thin shrink small outline package; 8 leads; body width 3 mm; lead length 0.5 mm    SOT505-2

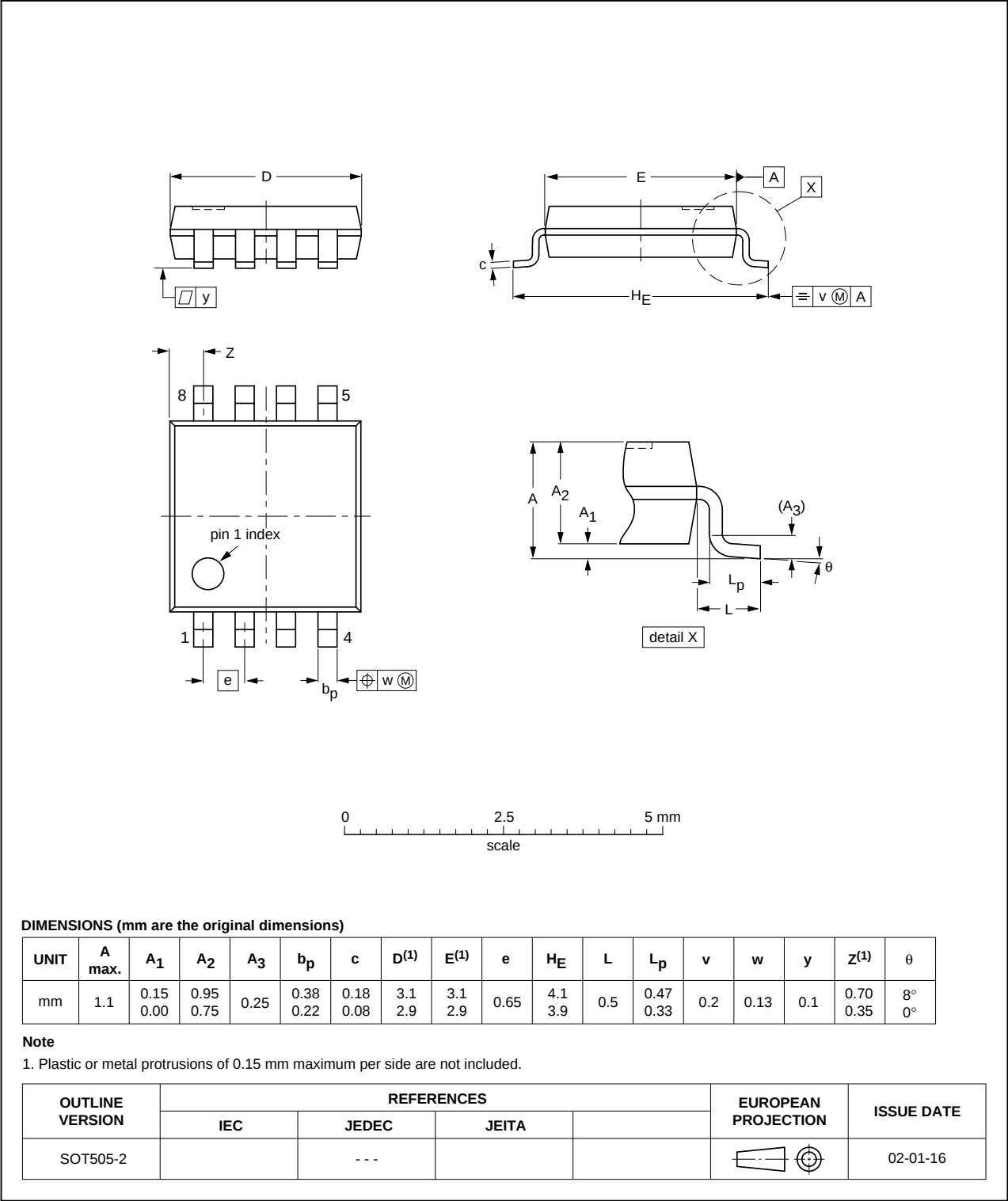


Fig 14. Package outline SOT505-2 (TSSOP8)

VSSOP8: plastic very thin shrink small outline package; 8 leads; body width 2.3 mm

SOT765-1

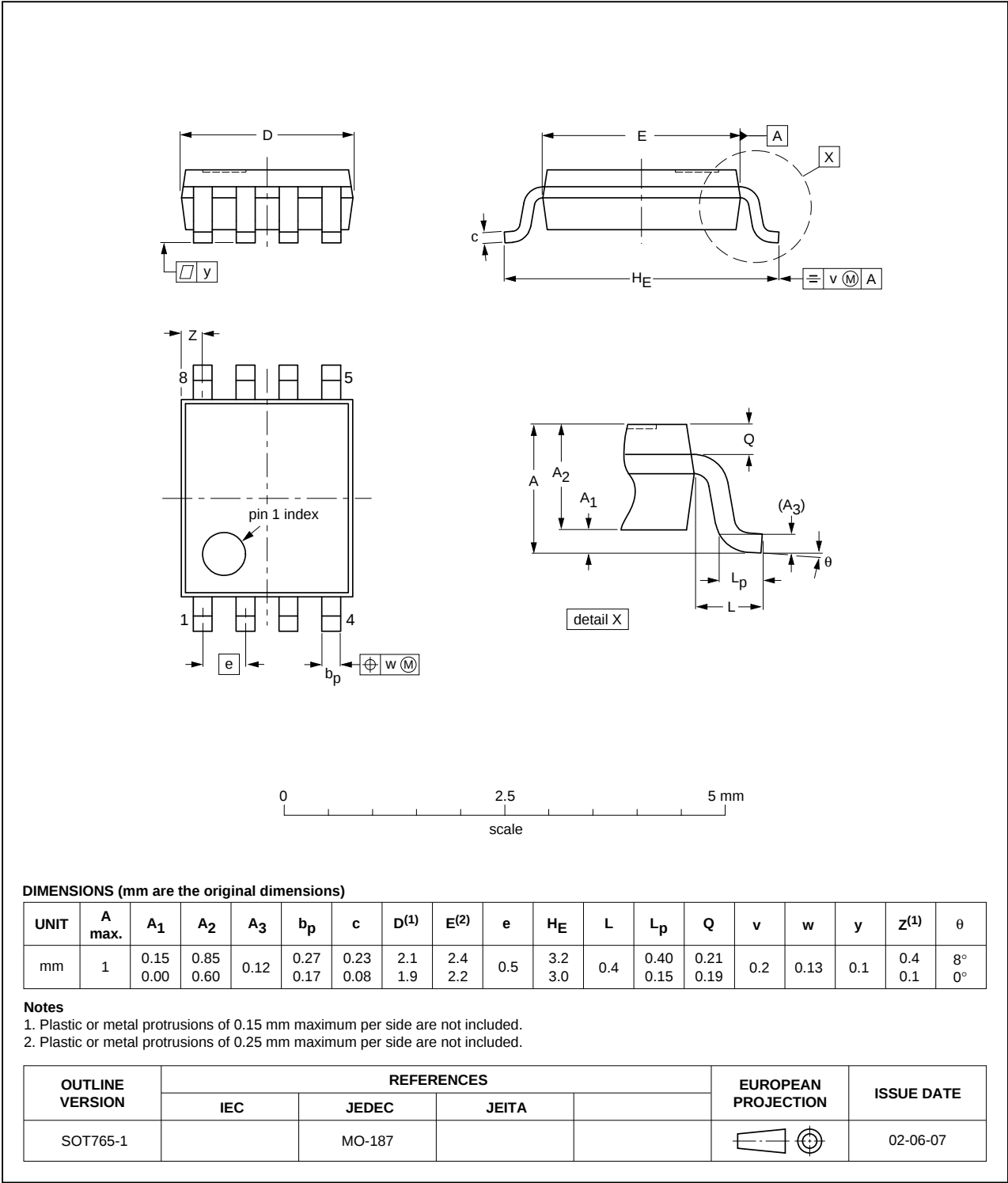


Fig 15. Package outline SOT765-1 (VSSOP8)

XSON8: plastic extremely thin small outline package; no leads; 8 terminals; body 1 x 1.95 x 0.5 mm

SOT833-1

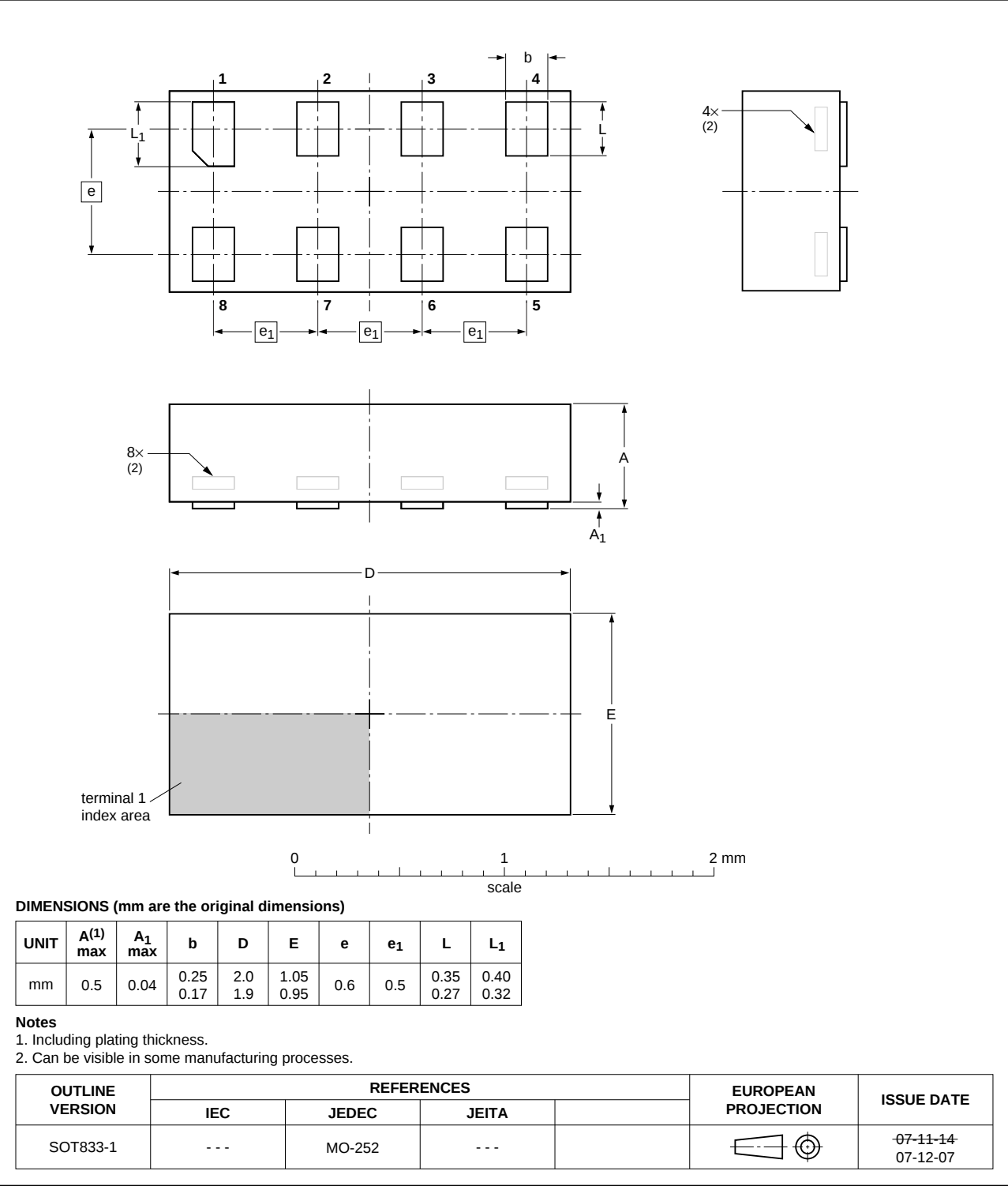


Fig 16. Package outline SOT833-1 (XSON8)

**XSON8: extremely thin small outline package; no leads;**  
**8 terminals; body 1.35 x 1 x 0.5 mm**

SOT1089

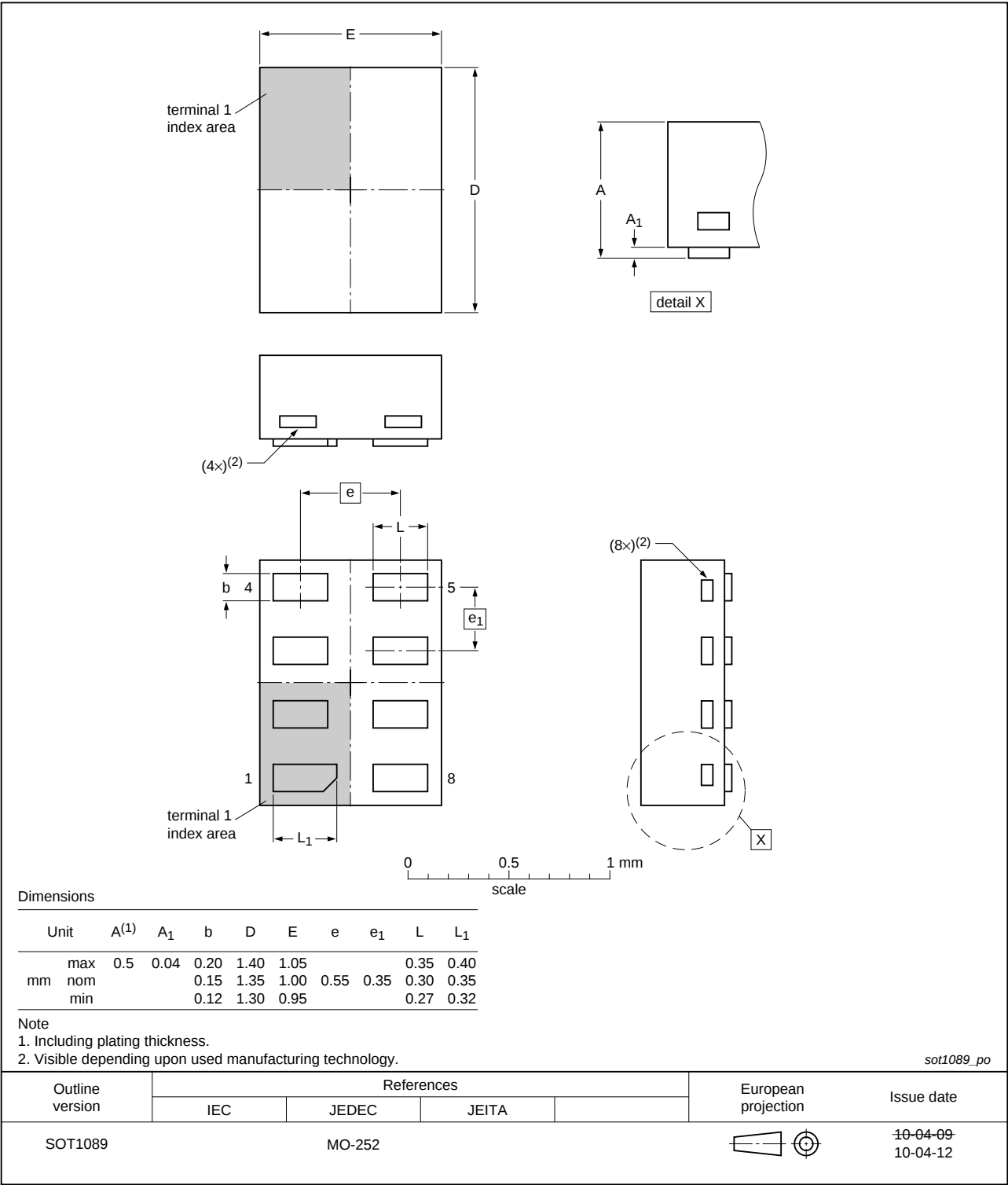


Fig 17. Package outline SOT1089 (XSON8)

XSON8: plastic extremely thin small outline package; no leads;  
8 terminals; body 3 x 2 x 0.5 mm

SOT996-2

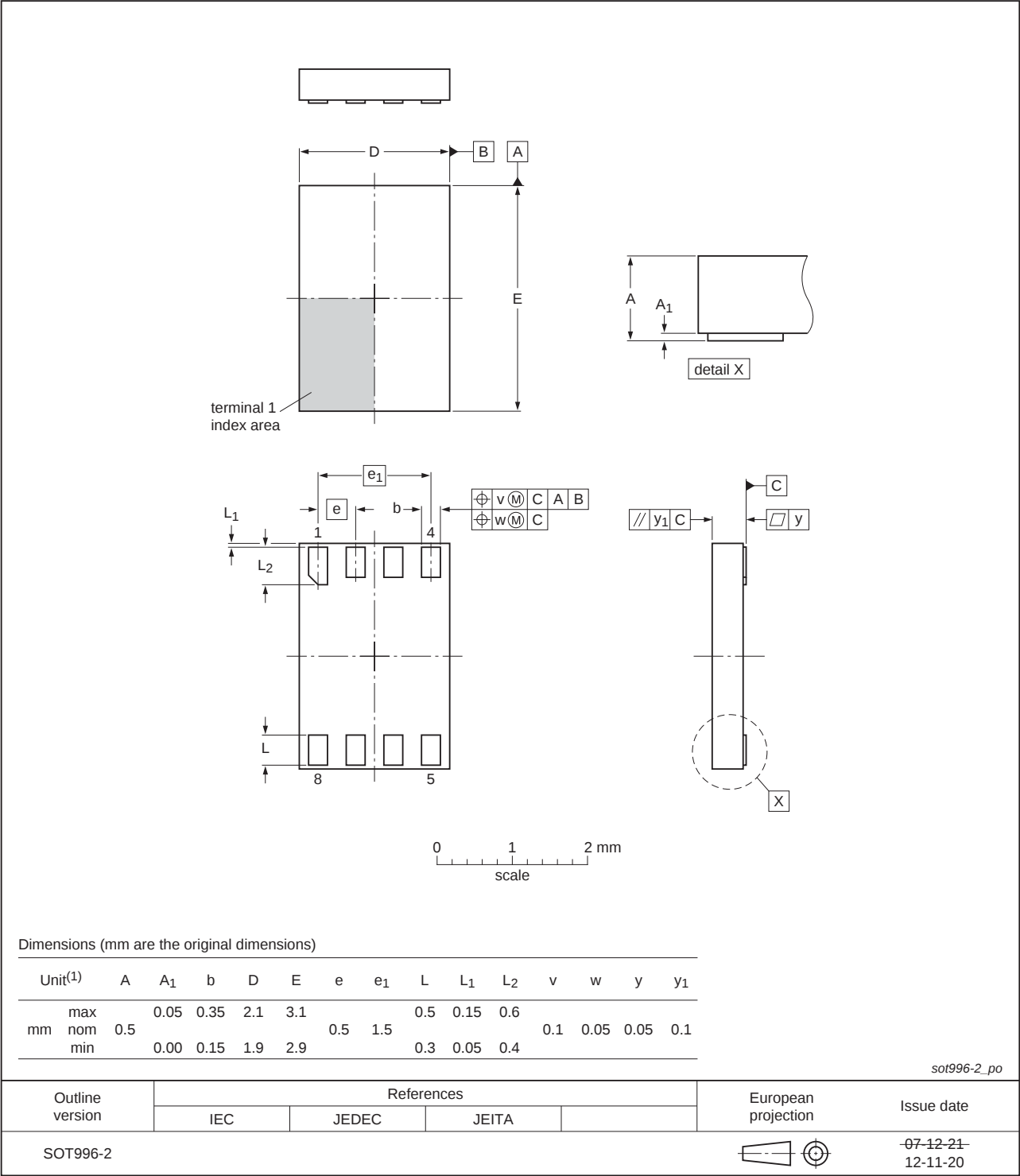


Fig 18. Package outline SOT996-2 (XSON8)

XQFN8: plastic, extremely thin quad flat package; no leads;  
8 terminals; body 1.6 x 1.6 x 0.5 mm

SOT902-2

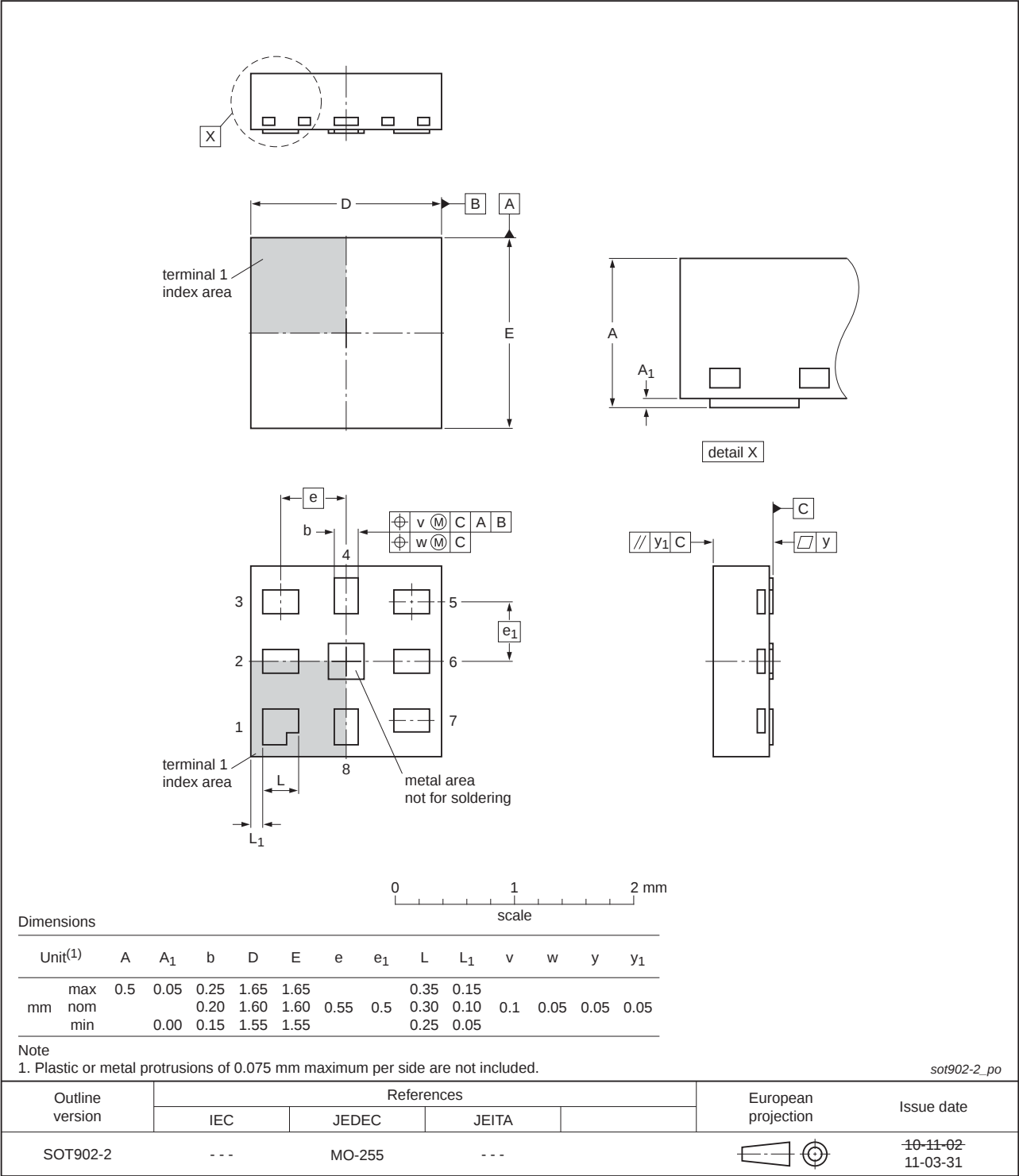


Fig 19. Package outline SOT902-2 (XQFN8)

XSON8: extremely thin small outline package; no leads;  
8 terminals; body 1.2 x 1.0 x 0.35 mm

SOT1116

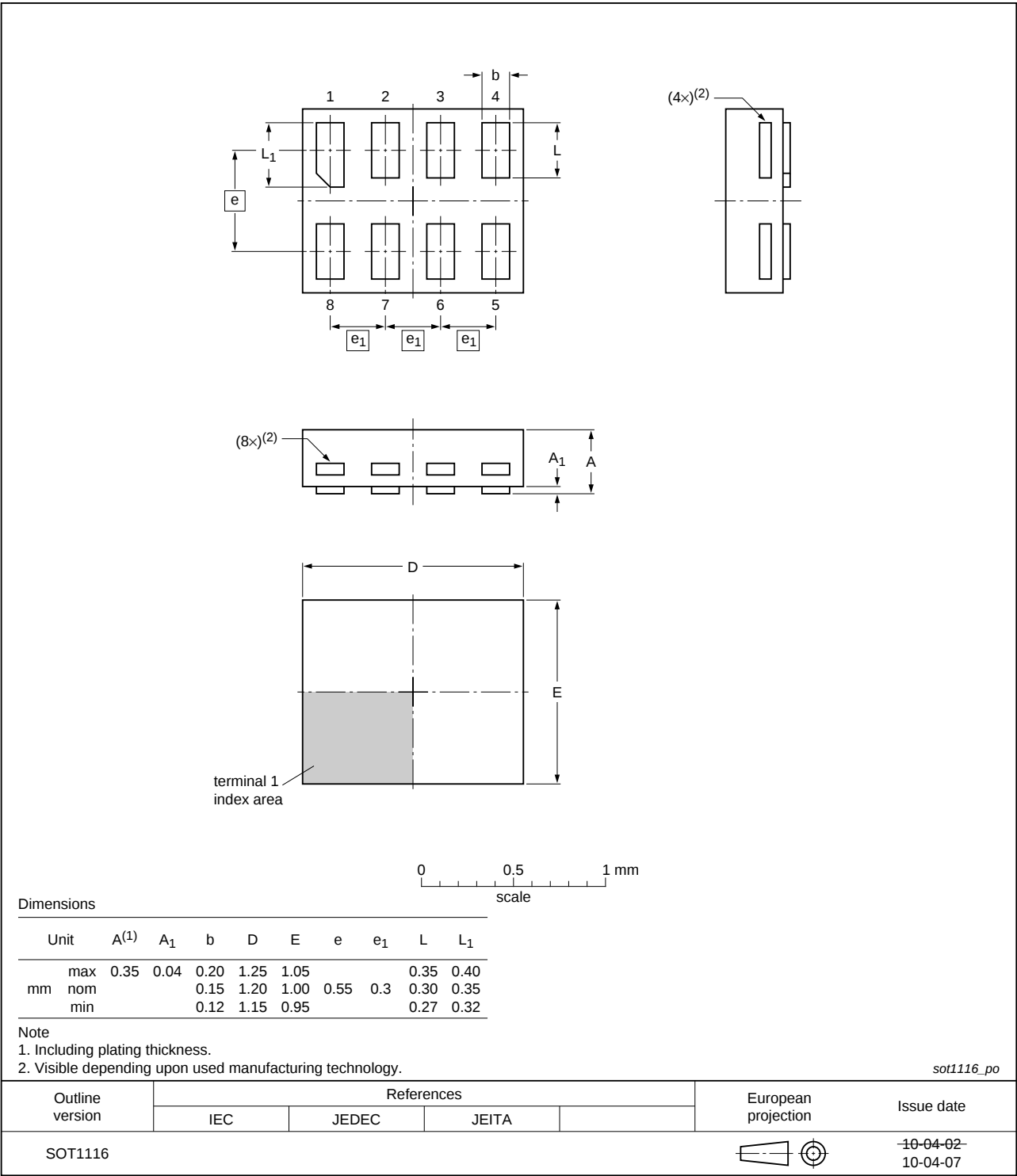


Fig 20. Package outline SOT1116 (XSON8)

XSON8: extremely thin small outline package; no leads;  
8 terminals; body 1.35 x 1.0 x 0.35 mm

SOT1203

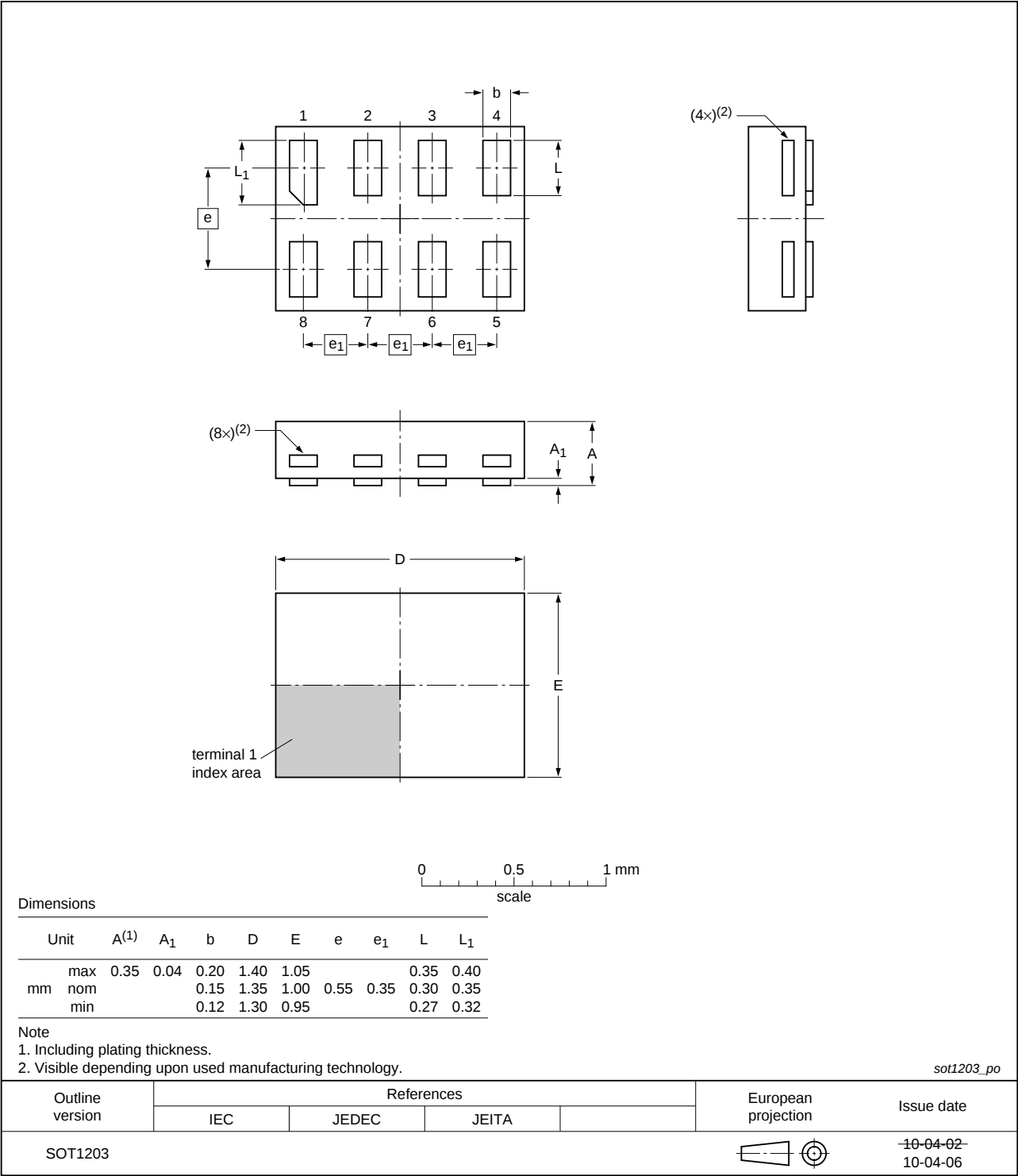


Fig 21. Package outline SOT1203 (XSON8)

## 16. Abbreviations

Table 11. Abbreviations

| Acronym | Description             |
|---------|-------------------------|
| DUT     | Device Under Test       |
| ESD     | ElectroStatic Discharge |
| HBM     | Human Body Model        |
| MM      | Machine Model           |

## 17. Revision history

Table 12. Revision history

| Document ID     | Release date                                                         | Data sheet status  | Change notice | Supersedes      |
|-----------------|----------------------------------------------------------------------|--------------------|---------------|-----------------|
| 74LVC3GU04 v.11 | 20130409                                                             | Product data sheet | -             | 74LVC3GU04 v.10 |
| Modifications:  | • For type number 74LVC3GU04GD XSON8U has changed to XSON8.          |                    |               |                 |
| 74LVC3GU04 v.10 | 20120706                                                             | Product data sheet | -             | 74LVC3GU04 v.9  |
| Modifications:  | • For type number 74LVC3GU04GM the SOT code has changed to SOT902-2. |                    |               |                 |
| 74LVC3GU04 v.9  | 20111123                                                             | Product data sheet | -             | 74LVC3GU04 v.8  |
| Modifications:  | • Legal pages updated.                                               |                    |               |                 |
| 74LVC3GU04 v.8  | 20101110                                                             | Product data sheet | -             | 74LVC3GU04 v.7  |
| 74LVC3GU04 v.7  | 20091111                                                             | Product data sheet | -             | 74LVC3GU04 v.6  |
| 74LVC3GU04 v.6  | 20080304                                                             | Product data sheet | -             | 74LVC3GU04 v.5  |
| 74LVC3GU04 v.5  | 20071005                                                             | Product data sheet | -             | 74LVC3GU04 v.4  |
| 74LVC3GU04 v.4  | 20070315                                                             | Product data sheet | -             | 74LVC3GU04 v.3  |
| 74LVC3GU04 v.3  | 20050201                                                             | Product data sheet | -             | 74LVC3GU04 v.2  |
| 74LVC3GU04 v.2  | 20041027                                                             | Product data sheet | -             | 74LVC3GU04 v.1  |
| 74LVC3GU04 v.1  | 20040512                                                             | Product data sheet | -             | -               |

## 18. Legal information

### 18.1 Data sheet status

| Document status <sup>[1][2]</sup> | Product status <sup>[3]</sup> | Definition                                                                            |
|-----------------------------------|-------------------------------|---------------------------------------------------------------------------------------|
| Objective [short] data sheet      | Development                   | This document contains data from the objective specification for product development. |
| Preliminary [short] data sheet    | Qualification                 | This document contains data from the preliminary specification.                       |
| Product [short] data sheet        | Production                    | This document contains the product specification.                                     |

[1] Please consult the most recently issued document before initiating or completing a design.

[2] The term 'short data sheet' is explained in section "Definitions".

[3] The product status of device(s) described in this document may have changed since this document was published and may differ in case of multiple devices. The latest product status information is available on the Internet at URL <http://www.nxp.com>.

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Date of release: 9 April 2013

Document identifier: 74LVC3GU04